

REMARKS

Claims 1-17 and 37-39 have been cancelled. Claim 40 has been amended. Thus, claims 18 - 36 and 40 - 42 are pending in the present application. No new matter has been added. In view of the above amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are in condition for allowance.

Claims 18 - 42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,332,036 to Sutter et al. ("Sutter") in view of U.S. Published Appln. No. 2003/0163202 to Lakin ("Lakin").

Claim 18 recites a prosthesis for replacing a surface of a ball of a ball-and-socket joint comprising "a spherical shell section having an outer surface that is configured to lie in an articular fossa and for attachment to a surface, the shell section having a cavity for receiving a bone end; and a crown that partitions the cavity of the shell section into first and second cavities adapted to receive the bone end; wherein the shell section comprises less than a hemisphere and *a free edge of the crown lies in the same plane as a free edge of the shell section.*"

It is respectfully submitted that Sutter fails to teach or suggest a prosthesis wherein "a free edge of the crown lies in the same place as a free edge of the shell section," as recited in claim 18. In support of the rejection, the Examiner has referenced the sleeve 5 of Sutter, citing specifically that Sutter teaches that "the shell 5 is desirably less than 40% of the length of the crown." (See 9/29/08 Office Action, p. 3). However, it is respectfully submitted that Sutter only teaches that "the distance 5 [by which the sleeve 7 extends out of the cap 3] is at most 50%, and preferably at most 40% of length L." (See Sutter, col. 4, l. 20 - 27; Fig. 3). Specifically, although Sutter teaches that the length of the portions may vary, there is no teaching or suggestion in Sutter that the portion 5 is removed altogether to provide a coplanar arrangement. Rather, Sutter explicitly teaches that the sleeve 7 *must* extend out of the cap 3 by the minimum

distance *s*. (*Id.*). Nothing in Sutter shows or suggests that the portion *s* can be eliminated entirely. In fact nothing suggests that it could be less than 30% of the length *L* or 35%, etc. Accordingly, it is submitted that Sutter only teaches that the distance by which the sleeve 7 protrudes distally out of the cap 3 may be varied, not that the sleeve 7 does not protrude distally at all. Additionally, modifying the device of Sutter so that the sleeve 7 does not project out of the cap 3 at all would be detrimental to the device of Sutter since Sutter explicitly teaches the desirability of such an extension. Specifically, Sutter recites that “[s]ince sleeve 7 protrudes deeper in the femur by the amount *s* than the latter is embraced by the cap, *the risk that the femur will be sheared off at the edge 3b of cap 3 with large forces acting transverse to the rotational symmetry axis 5 is very small.*” (See Sutter, col. 6, ll. 25 - 29). It is therefore submitted that employment of a sleeve 7 that does not extend distally out of the cap 3 would be contrary to the teachings of Sutter and the modification proposed by the Examiner is therefore not allowable.

It is further noted that Lakin does not cure the aforementioned deficiency of Sutter. Specifically, Lakin fails to disclose or suggest that connection member 20 lies in the same plane as the shell section. (See Lakin, p. 2, ¶ [0032]-[0033]; Fig. 1).

It is therefore respectfully submitted that Sutter and Lakin, taken alone or in combination, fail to teach or suggest a prosthesis for replacing a surface of a ball of a ball-and-socket joint comprising a “shell section having a cavity for receiving a bone end; and a crown that partitions the cavity of the shell section into *first and second cavities adapted to receive the bone end*; wherein the shell section comprises less than a hemisphere and *a free edge of the crown lies in the same plane as a free edge of the shell section*,” as recited in claim 18 and that claim 18 is therefore in condition for allowance. Since claims¹ 19-35 and 42 depend from and therefore include all of the limitations of claim 18, it is respectfully submitted that these claims are also allowable.

Claim 41 also recites limitations substantially similar to those of claim 18, including a

procedure for implantation of a prosthesis in a bone comprising the steps of “providing a prosthesis for replacing a surface in an area of a ball of a ball-and-socket joint, the prosthesis including a spherical shell section and a crown, the shell section having an outer surface configured to lie in an articular fossa and for attachment to a surface, the shell section having a cavity for receiving a bone end, the crown partitioning the cavity of the shell section into a first cavity and a second cavity, *wherein the shell section comprises less than a hemisphere and a free edge of the crown lies in the same plane as a free edge of the shell section*; and inserting the prosthesis onto the bone such that the crown is received in the groove formed in the bone.” It is therefore respectfully submitted that claim 41 is allowable over Sutter and Lakin for at least the same reasons previously mentioned with respect to claim 18.

Claim 36 recites a prosthesis for replacing a surface in a ball of a ball-and-socket joint comprising “a spherical shell section having an outer surface configured to lie in an articular fossa and for attachment to a surface, the shell section having a cavity for receiving a bone end; and a crown that partitions the cavity of the shell section into a first cavity and a second cavity, the first and the second cavities being adapted to receive portions of the bone end; *wherein the shell section comprises less than a hemisphere and a free edge of the crown does not intersect a plane in which a free edge of the shell section lies*.” As noted above with regard to claim 18, Sutter only teaches a sleeve 7 that is adapted to protrude distally out of the cap 3 by a distance *s*. (See Sutter, col. 4, l. 20 - 27; Fig. 3). Thus, it is submitted that Sutter fails to teach or suggest a sleeve 7 wherein “a free edge [thereof] does not intersect a plane in which a free edge of the shell lies,” as recited in claim 36. It is further submitted that Lakin fails to overcome this deficiency. Specifically, Lakin does not teach a “shell section having a cavity for receiving a bone end” wherein “the shell section comprises less than a hemisphere and a free edge of the crown does not intersect a plane in which a free edge of the shell section lies,” as recited in claim 36 at all.

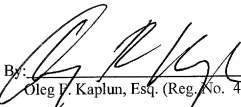
It is therefore respectfully submitted that neither Sutter nor Lakin, taken alone or in combination, teach or suggest “a spherical shell section having an outer surface configured to lie

in an articular fossa and for attachment to a surface, the shell section having a cavity for receiving a bone end” wherein “the shell section comprises less than a hemisphere and a free edge of the crown does not intersect a plane in which a free edge of the shell section lies,” as recited in claim 36 and claim 36 is therefore allowable over Sutter and Lakin. Since claim 40 depends from and therefore includes all of the limitations of claim 36, it is respectfully submitted that this claim is also allowable.

In light of the foregoing, Applicants respectfully submit that all of the pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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